

## OIB - P-3 Orion 04/04/18 Science Report

**Aircraft:** [P-3 Orion - WFF](#) (See full schedule)

**Date:** Wednesday, April 4, 2018

**Mission:** OIB

**Mission Location:** Greenland

**Mission Summary:**

OIB completed the high priority North Pole transit mission. This mission is a near-repeat of an OIB flight flown every years since 2013 which samples ice in the vicinity of the Pole and also the gradient of that ice between the Pole and Ellesmere Island. The flight line was modified to collect data over a CryoSat-2 orbit on the southwestern edge of the line (which occurred 1 hour and 54 minutes prior to our arrival), a study site on shore-fast ice near Alert in conjunction with Christian Haas, a short segment in Inglefield Land to support a hydrology study at the request of Larry Smith, and a site northeast of Thule at the request of Kimberly Casey (USGS) and the Geological Survey of Greenland (Asiaq). In addition to Level-1 Requirements SI1 and SI2, this mission addresses sea ice level 1 projected requirement SIP2a by extending sea ice baseline observations to the North Pole region, and sea ice level 1 baseline requirement SI4 by conducting a sampling mission that is time-coincident with a CryoSat-2 track.

Weather was good throughout the main portion of the flight and all instruments performed well. We had to ascend above a cloud deck near the shore-fast ice site off of Alert, this was above the snow radar Nyquist zone so we were unable to collect data from the system, however ATM and DMS data were collected. During the CryoSat-2 orbit track no open water leads were visually observed although some small old leads with thick grey ice were seen, the KT-19 showed cold ice surface temperatures down to -40 C.

### Data Volumes

ATM T6: 100 Gb  
ATM T7: 114 Gb  
CAMBOT: 60 Gb  
FLIR: 10 Gb  
KT19: 11 Mb  
DMS: 74.2 Gb

Snow radar: 980 Gb  
MCoRDS: No data (sea ice)  
Accumulation radar: No data (sea ice)

Data on: 1228  
Data off: 1725

**Submitted by:** Nathan T. Kurtz on 04/04/18

**File:**

 [North\\_Pole\\_Transect.pdf](#)

**Related Flight Report:**

## P-3 Orion 04/04/18

**Flight Number:** 2018 OIB Arctic -Science #3

**Payload Configuration:** 2018 OIB Arctic

**Nav Data Collected:** No

**Total Flight Time:** 8.1 hours

**Submitted by:** Janet Letchworth on 04/04/18

**Flight Segments:**

<b>From:</b>	BGTL	<b>To:</b>	BGTL
<b>Start:</b>	04/04/18 10:53 Z	<b>Finish:</b>	04/04/18 18:58 Z
<b>Flight Time:</b>	8.1 hours		
<b>Log Number:</b>	<a href="#">18P008</a>	<b>PI:</b>	Nathan Kurtz

<b>Funding Source:</b>	Bruce Tagg - NASA - SMD - ESD Airborne Science Program
<b>Purpose of Flight:</b>	Science
<b>Comments:</b>	The flight line today was the North Pole Transect.

**Flight Hour Summary:**

	<b>18P008</b>
<b>Flight Hours Approved in SOFRS</b>	201.2
<b>Total Used</b>	190.4
<b>Total Remaining</b>	10.8

**18P008 Flight Reports**

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
<a href="#">03/13/18</a>	2018 OIB Arctic - Airworthiness Test Flight	Other	0.8	0.8	200.4	
<a href="#">03/14/18</a>	2018 OIB Arctic - Project Test Flight - Laser	Other	2.6	3.4	197.8	
<a href="#">03/15/18</a>	2018 OIB Arctic - Project Test Flight - Radar	Other	5.7	9.1	192.1	
<a href="#">03/18/18</a>	2018 OIB Arctic - delta ATF	Other	0.8	9.9	191.3	
<a href="#">03/20/18</a>	2018 OIB Arctic - Transit to Thule	Transit	7.9	17.8	183.4	
<a href="#">03/22/18</a>	2018 OIB Arctic - Science #1	Science	7.8	25.6	175.6	
<a href="#">04/03/18</a>	2018 OIB Arctic - Science #2	Science	7.9	33.5	167.7	
<a href="#">04/04/18</a>	2018 OIB Arctic - Science #3	Science	8.1	41.6	159.6	
<a href="#">04/05/18</a>	2018 OIB Arctic - Science #4	Science	8	49.6	151.6	
<a href="#">04/06/18</a>	2018 OIB Arctic - Science #5	Science	8.8	58.4	142.8	
<a href="#">04/07/18 - 04/08/18</a>	2018 OIB Arctic - Science #6	Science	8.1	66.5	134.7	
<a href="#">04/08/18 - 04/09/18</a>	2018 OIB Arctic - Science #7	Science	8.3	74.8	126.4	
<a href="#">04/14/18 - 04/15/18</a>	2018 OIB Arctic - Science #8	Science	7.7	82.5	118.7	
<a href="#">04/16/18</a>	2018 OIB Arctic - Science #9	Science	8.2	90.7	110.5	
<a href="#">04/18/18</a>	2018 OIB Arctic - Science #10	Science	8	98.7	102.5	
<a href="#">04/19/18</a>	2018 OIB Arctic - Science #11	Science	7.7	106.4	94.8	
<a href="#">04/20/18</a>	2018 OIB Arctic - Transit to Kanger	Transit	4.2	110.6	90.6	
<a href="#">04/21/18</a>	2018 OIB Arctic - Science #12	Science	8.1	118.7	82.5	
<a href="#">04/22/18</a>	2018 OIB Arctic - Science #13	Science	6.5	125.2	76	
<a href="#">04/23/18</a>	2018 OIB Arctic - Science #14	Science	8.2	133.4	67.8	

<a href="#">04/25/18</a>	2018 OIB Arctic - Science #15	Science	7.7	141.1	60.1
<a href="#">04/26/18</a>	2018 OIB Arctic - Science #16	Science	8.8	149.9	51.3
<a href="#">04/27/18</a>	2018 OIB Arctic - Science #17	Science	8	157.9	43.3
<a href="#">04/29/18</a>	2018 OIB Arctic - Science #18	Science	8.3	166.2	35
<a href="#">04/30/18</a>	2018 OIB Arctic - Science #19	Science	9.3	175.5	25.7
<a href="#">05/01/18</a>	2018 OIB Arctic - Science #20	Science	7.4	182.9	18.3
<a href="#">05/03/18</a>	2018 OIB Arctic - Return Transit Leg #1	Transit	6.4	189.3	11.9
<a href="#">05/03/18</a>	2018 OIB Arctic - Return Transit Leg #2	Transit	0.6	189.9	11.3
<a href="#">05/03/18</a>	2018 OIB Arctic - Return Transit Leg #3	Transit	0.5	190.4	10.8

*Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.*

Page Last Updated: April 22, 2017

Page Editor: Brad Bulger

NASA Official: Bruce A. Tagg

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